

AD-A102 787

ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/0 4/2  
1981BC LANCE MISSILE NUMBER 4575, ROUND NUMBER 364-APT. 12 JUN --ETC(U)

UNCLASSIFIED

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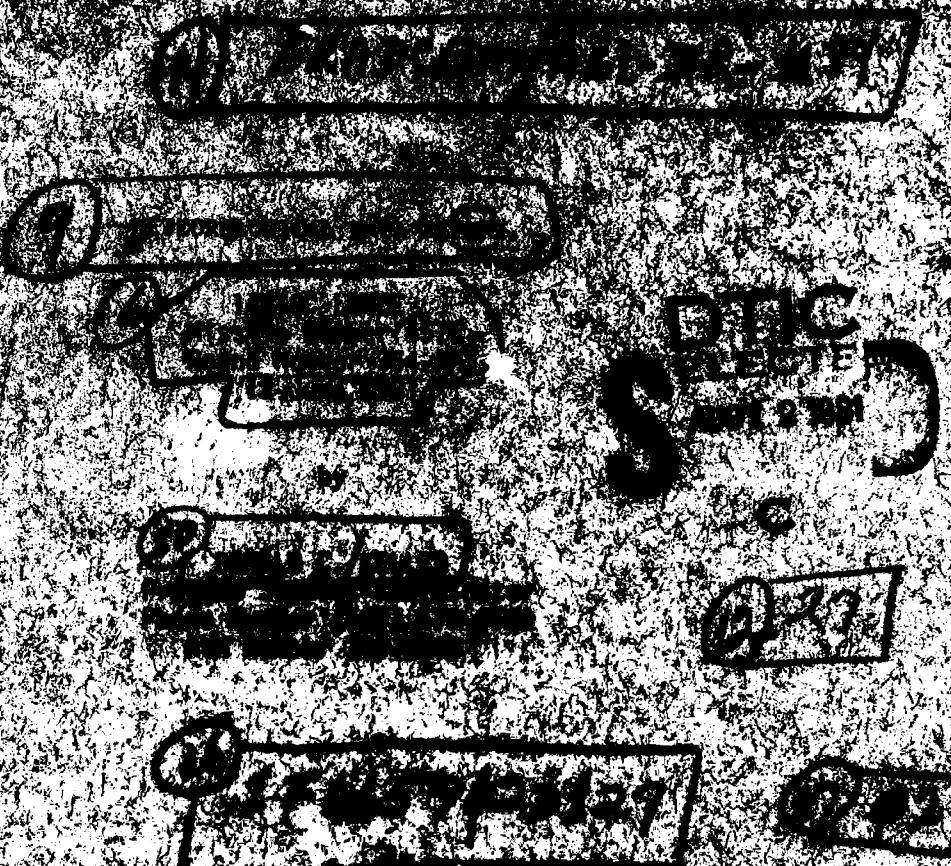
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## SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)	Meteorological data gathered for the launching of the 14818-C LANCE, Missile No. 4575, Round No. 364-APT presented in tabular form.	

## CONTENTS

	PAGE
INTRODUCTION-----	1
DISCUSSION-----	1
MAP-----	2
TABLES:	
1. Surface Observations taken at 1245 MDT at LC-36-----	3
2. LC-36 Pilot-Balloon Measured Wind Data at 1235 MDT---	4
3. LC-36 Pilot-Balloon Measured Wind Data at 1245 MDT---	5
4. T-Time Computer Met Messages-----	6
5. WSD Significant Level Data at 1235 MDT-----	7
6. WSD Upper Air Data at 1235 MDT-----	9
7. WSD Mandatory Levels at 1235 MDT-----	15
8. NW-30 Significant Level Data at 1236 MDT-----	16
9. NW-30 Upper Air Data at 1236 MDT-----	18
10. NW-30 Mandatory Levels at 1236 MDT-----	24

## INTRODUCTION

14818-C LANCE, Missile Number 4575, Round Number 364-APT, was launched from LC-39, White Sands Missile Range (WSMR), New Mexico, at 1245 MDT, 12 June 1981. The scheduled launch time was 1230 MDT.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

### 1. Observations:

#### a. Surface

(1) Standard surface observations to include pressure, temperature ( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm}/\text{m}^3$ ), wind direction and speed, and cloud cover were made at the LC-36 Met Site at T-0 minutes.

(2) Monitor of wind speed and direction from one anemometer was provided in the launch control room.

#### b. Upper Air:

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

## SITE AND ALTITUDE

LC-36 2760 Meters

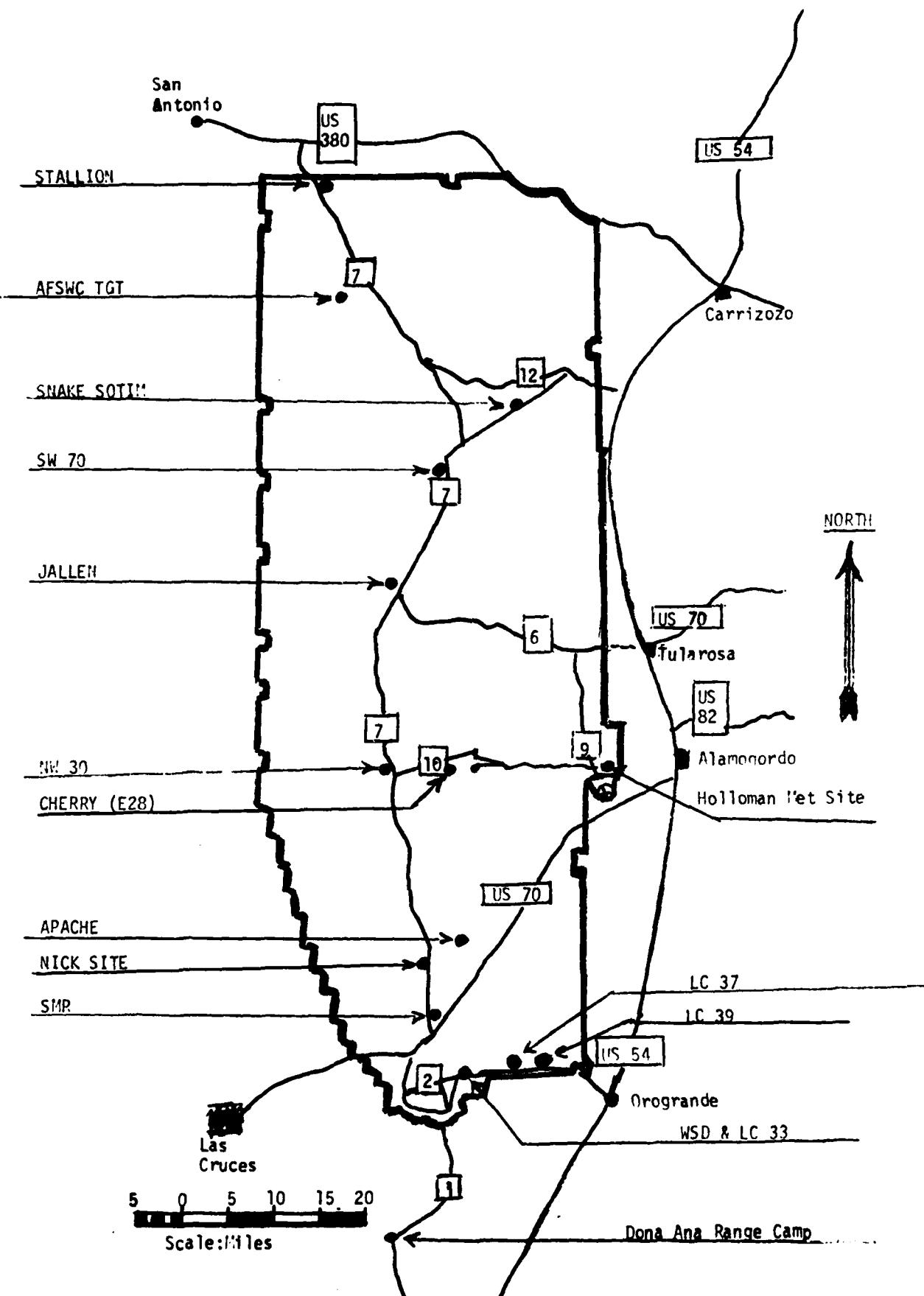
(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to high as possible in 500-feet increments.

## SITE AND TIME

WSD 1235 MDT  
NW-30 1236 MDT

Accession For	<input type="checkbox"/>
NTIS GRA&I	<input checked="" type="checkbox"/>
FMIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Avail and/or	
Dist	Special

A



## PROJECT SURFACE OBSERVATION

TABLE 1

DATE M.D.J.	PRESSURE mb	TEMPERATURE OF °C	DEW POINT OF °C	RELATIVE HUMIDITY %	DENSITY gm/m <sup>3</sup>	DIRECTION degs TN	WIND SPEED kts	CHARACTER	VISIBIL- ITY
1245	874.1	38.3	11.9	21	971	180	.01		40

STATION: LC-36

X= 504, 465.52 Y= 190,780.55 H= 4040.71

OBSTRUCTIONS TO VISIBILITY	CLOUDS			REMARKS		
	1st LAYER AMT	TYPE	HGT	2nd LAYER AMT	TYPE	HGT
	0	CU	7000			

## PSYCHROMETRIC COMPUTATION

TIME: MDT	1245	
DRY BULB TEMP.	38.3	
WET BULB TEMP.	20.5	
WET BULB DEPR.	17.8	
DEW POINT	11.9	
RELATIVE HUMID.	21	

PILOT BALLOON MEASURED WIND DATA

TABLE 2

RELEASED FROM LC-36

DATE 12 June 1981

TIME 1235 MDT

COORDINATES (WSTM) X = 504,465.52 Y = 190,780.55 H = 4040.71

Y = 190,780.55

$$H = 4040.71$$

NOTE: WIND DIRECTIONS ARE REFERENCED TO \_\_\_\_\_.

HEIGHTS ARE METERS AGL X OR FEET AGL \_\_\_\_\_.

HEIGHT AGL	DIRECTION DEGREES	SPEED KNOTS
sfc	185	01
60	195	01
120	215	01
180	205	04
240	193	03
300	143	04
360	123	06
420	114	05
480	127	04
540	153	04
600	171	05
660	201	07
720	196	05
780	187	03
840	152	02
900	175	02
960	183	02
1020	199	03
1080	218	06
1140	178	06
1200	211	06
1260	244	03
1320	197	05
1380	199	05
1440	237	05
1500	240	09
1560	263	03
1620	234	06
1680	249	10
1740	240	10

PILOT BALLOON MEASURED WIND DATA

TABLE 3

RELEASED FROM LC-36

DATE 12 June 1981

TIME 1245 MDT

COORDINATES (WSTM) X= 504,465.52 Y= 190,780.55 H= 4040.71

NOTE: WIND DIRECTIONS ARE REFERENCED TO .

HEIGHTS ARE METERS AGL X OR FEET AGL .

HEIGHT AGL	DIRECTION DEGREES	SPEED KNOTS
sfc	180	01
60	169	02
120	151	07
180	145	07
240	136	07
300	141	06
360	182	07
420	205	06
480	177	06
540	181	09
600	180	06
660	162	05
720	148	07
780	187	07
840	158	06
900	193	04
960	168	07
1020	146	08
1080	161	08
1140	151	09
1200	170	07
1260	154	05
1320	163	05
1380	143	06
1440	126	03
1500	130	05
1560	224	03
1620	178	07
1680	171	05
1740	219	10

TABLE 4

## T-TIME AND COMPUTER MET MESSAGES

WSD	1235 MDT	NW-30	1235 MDT
METCM1324064		METCM1329065	
121850122875		121850122873	
00320005	31080875	00160008	31260873
01322010	30850865	01183013	31060863
02294005	30470841	02241010	30680839
03296006	30090804	03261012	30250803
04392006	29640759	04337014	29700758
05423010	29210717	05367013	29240716
06430011	28780676	06426022	28820675
07447013	28320637	07447025	28350636
08446013	27850599	08443029	27920598
09468021	27390563	09479014	27510563
10479016	26960529	10423003	27080529
11466006	26760497	11430007	26830496
12001007	26390451	12581005	26430451
13567016	25640396	13544015	25620396
14496018	25030346	14468016	25020346
15512022	24160301	15486022	24170301
16508023	23410261	16498030	23400261
17501029	22750225	17487026	22750225
18493025	22070194	18468029	22040194
19495028	21380166	19463026	21390165
20496027	20960141	20478029	20940141
21408016	20530120	21381019	20530120
22356022	20190101	22374024	20240101
23329015	20270086	23305012	20360086
24256022	20710073	24272020	20800073
25333019	21090062	25315011	21260062
26188015	21370053	26169018	21370053

STATION ALTITUDE 3989.00 FEET MSL  
 12 JUNE 81 1235 HRS MDT  
 ASCENSION NO. 391

SIGNIFICANT LEVEL DATA

163n020391  
 WHITE SANDS

GEODETIC COORDINATES  
 32°40'43" LAT DEG  
 106°37'03" LON UEG

TABLE 5

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
874.5	3989.0	36.3	7.4
860.5	4468.9	33.1	5.0
850.0	4830.8	31.2	3.3
776.6	7451.3	23.7	1.4
700.0	10389.6	16.3	-2.2
626.6	13439.8	8.0	-4.6
582.4	15405.6	2.6	-8.1
548.4	16993.4	-1.8	-9.9
523.4	18208.2	-4.9	-11.2
515.2	18616.5	-5.0	-27.6
505.8	19092.2	-5.2	-27.7
500.0	19389.5	-6.1	-28.5
494.8	19658.5	-6.2	-28.5
482.8	20290.7	-5.7	-28.9
427.4	23393.3	-12.4	-31.2
400.0	25044.8	-16.8	-33.4
384.3	26030.2	-19.0	-36.2
376.6	26526.1	-19.0	-37.8
369.6	26985.8	-19.1	-37.9
300.0	31966.5	-32.1	-46.3
289.8	32767.1	-34.3	-50.2
250.0	36121.1	-41.3	
200.0	41009.3	-51.0	
167.2	44777.5	-59.5	
154.4	46612.7	-61.6	
150.0	47003.6	-61.4	
130.4	49833.3	-66.5	
123.0	50997.4	-67.3	
119.6	51554.7	-67.5	
109.2	53347.5	-70.9	
102.6	54562.5	-72.1	
100.0	55061.8	-71.7	
96.4	55776.3	-71.4	
90.0	57116.0	-71.4	
84.4	58374.4	-69.7	
81.6	59036.1	-70.9	
76.4	60331.2	-68.6	
70.0	62080.1	-64.3	
65.8	63335.2	-62.6	
57.6	66049.6	-62.1	

STATION ALTITUDE 3989.00 FEET MSL  
12 JUNE 81 1235 HRS MDT  
ASCENSION NO. 391

SIGNIFICANT LEVEL DATA  
1630020391  
WHITE SANDS

GEODETIC COORDINATES  
32°40'04.3" LAT DEG  
106°37'03.3" LON DEG

TABLE 5 CON'T

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL.HUM. PERCENT
		AIR DEWPONT DEGREES	CENTIGRADE	
55.0	66996.6	-60.4		
52.6	67913.5	-61.2		
50.0	68964.3	-56.7		
38.8	74320.7	-52.6		
36.4	75702.1	-49.5		
31.6	78759.3	-50.4		
30.0	79884.4	-48.9		
27.0	82177.8	-48.1		
24.8	84044.0	-45.1		
22.4	86302.3	-43.4		
20.0	88836.7	-41.6		
17.6	91711.7	-40.9		
15.0	95312.5	-41.0		
12.4	99655.6	-35.1		
10.0	104639.9	-33.9		
7.0	112932.2	-33.8		
5.0	120801.7	-31.4		

STATION ALTITUDE 3989.00 FEET MSL  
12 JUNE 81 1235 HRS MDT  
ASCENSION NO. 391

UPPER AIR DATA  
1630020391  
WHITE SANDUS  
TABLE 6

GEODETIC COORDINATES  
32.40943 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	INDEX OF REFRACTION
3989.0	874.5	36.3	7.4	17.0	980.1	686.8	1.000259
4000.0	874.2	36.2	7.3	17.0	980.0	686.8	5.1
4500.0	859.6	32.9	5.4	17.9	974.5	682.9	1.000259
5000.0	845.1	30.7	3.2	17.4	965.5	680.3	5.2
5500.0	830.6	29.3	2.9	18.5	953.5	678.7	5.4
6000.0	816.4	27.9	2.6	19.7	941.7	677.1	5.6
6500.0	802.5	26.4	2.2	20.8	930.0	675.4	5.9
7000.0	788.8	25.0	1.8	22.0	918.6	673.8	6.1
7500.0	775.3	23.6	1.3	23.1	907.2	672.2	6.2
8000.0	761.7	22.3	.8	23.9	895.2	670.7	6.4
8500.0	748.3	21.1	.2	24.8	883.3	669.3	6.6
9000.0	735.2	19.8	-.4	25.6	871.7	667.8	6.7
9500.0	722.4	18.5	-1.1	26.5	860.2	666.3	6.8
10000.0	709.7	17.3	-1.7	27.3	848.8	664.9	6.9
10500.0	697.2	16.0	-2.3	28.4	837.6	663.4	7.0
11000.0	684.7	14.6	-2.5	30.4	826.4	661.8	7.1
11500.0	672.3	13.3	-2.9	32.4	815.4	660.2	7.2
12000.0	660.2	11.9	-3.3	34.3	804.6	658.7	7.3
12500.0	648.4	10.6	-3.8	36.3	794.0	657.1	7.4
13000.0	636.7	9.2	-4.3	38.3	783.5	655.5	7.5
13500.0	625.2	7.8	-4.9	40.2	773.1	653.9	7.6
14000.0	613.7	6.5	-5.7	41.4	762.7	652.2	7.7
14500.0	602.4	5.1	-6.5	42.7	752.4	650.6	7.8
15000.0	591.3	3.7	-7.4	44.0	742.3	649.0	7.9
15500.0	580.3	2.3	-8.2	45.5	732.3	647.3	8.0
16000.0	569.4	1.0	-8.7	48.4	722.2	645.7	8.1
16500.0	558.7	-.4	-9.3	51.2	712.3	644.0	8.2
17000.0	548.3	-1.8	-.9	54.0	702.5	642.4	8.3
17500.0	537.6	-3.1	-10.4	56.9	692.4	640.8	8.4
18000.0	527.6	-4.4	-11.0	59.8	682.5	639.3	8.5
18500.0	517.5	-5.0	-20.6	26.1	671.7	638.3	8.6
19000.0	507.6	-5.2	-27.7	15.0	659.5	637.9	8.7
19500.0	497.9	-6.1	-28.5	15.0	649.3	636.7	8.8
20000.0	486.3	-5.9	-28.7	14.5	636.3	637.0	8.9
20500.0	476.8	-6.2	-29.0	14.3	624.5	636.7	9.0
21000.0	469.5	-7.2	-29.3	15.1	614.8	635.4	9.1
21500.0	460.4	-8.3	-29.6	15.9	605.3	634.1	9.2
22000.0	451.4	-9.4	-30.0	16.8	596.0	632.8	9.3
22500.0	442.7	-10.5	-30.4	17.6	586.8	631.5	9.4
23000.0	434.1	-11.6	-30.8	18.4	577.8	630.2	9.5

STATION ALTITUDE 3989.00 FEET MSL  
12 JUNE 81 1235 HRS MDT  
ASCENSION NO. 391

UPPER AIR DATA  
1630020391  
WHITE SANDS

GEOGRAPHIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

TABLE 6 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	425.6	-12.7	-31.3	19.2	569.0	628.9	352.7	13.2
24000.0	417.1	-14.0	-32.0	20.1	560.5	627.2	341.9	15.1
24500.0	408.8	-15.3	-32.6	21.0	552.3	625.6	333.4	17.1
25000.0	400.7	-16.7	-33.3	21.9	544.1	624.0	324.4	17.0
25500.0	392.7	-17.8	-34.7	21.1	535.6	622.6	315.4	17.3
26000.0	384.8	-18.9	-36.2	20.1	527.1	621.2	305.1	17.4
26500.0	377.0	-19.0	-37.7	17.2	516.6	621.1	295.4	18.0
27000.0	369.4	-19.1	-37.9	17.0	506.5	621.0	287.6	17.4
27500.0	361.7	-20.4	-39.0	17.1	490.5	619.4	280.5	17.1
28000.0	354.2	-21.7	-40.0	17.2	490.8	617.8	278.9	16.7
28500.0	346.9	-23.1	-41.1	17.3	483.1	616.2	277.8	16.7
29000.0	339.7	-24.4	-42.1	17.4	475.6	614.5	278.3	17.8
29500.0	332.7	-25.7	-43.1	17.5	468.2	612.9	278.7	18.0
30000.0	325.8	-27.0	-44.2	17.6	460.9	611.3	279.3	19.4
30500.0	319.0	-28.3	-45.2	17.7	453.8	609.7	279.9	19.9
31000.0	312.4	-29.6	-46.3	17.8	446.7	608.0	281.3	20.5
31500.0	305.9	-30.9	-47.3	17.9	439.8	606.4	282.9	21.0
32000.0	299.6	-32.2	-48.4	18.0	433.1	604.8	286.3	21.8
32500.0	293.2	-33.6	-49.6	18.0	426.2	603.0	290.2	22.9
33000.0	286.8	-34.8	-51.2	16.7**	419.2	601.5	291.6	23.8
33500.0	280.6	-35.8	-53.5	14.1**	411.9	600.2	292.1	24.6
34000.0	274.5	-36.9	-56.1	11.4**	404.7	598.8	289.7	25.1
34500.0	268.5	-37.9	-59.1	8.7**	397.6	597.5	286.3	25.5
35000.0	262.7	-39.0	-62.7	6.0**	390.7	596.2	285.2	25.8
35500.0	256.9	-40.0	-67.8	3.3**	383.9	594.9	284.7	26.1
36000.0	251.3	-41.0	-79.2	.6**	377.2	593.5	284.6	26.1
36500.0	245.7	-42.1			370.4	592.2	284.6	26.1
37000.0	240.2	-43.0			363.6	591.0	284.9	26.3
37500.0	234.7	-44.0			356.9	589.7	285.3	26.5
38000.0	229.5	-45.0			350.4	588.4	283.3	26.5
38500.0	224.3	-46.0			344.0	587.1	280.5	26.6
39000.0	219.2	-47.0			337.7	585.8	279.7	26.7
39500.0	214.3	-48.0			331.5	584.6	279.9	26.7
40000.0	209.4	-49.0			325.5	583.3	279.9	26.3
40500.0	204.7	-50.0			319.6	582.0	279.6	25.5
41000.0	200.1	-51.0			313.7	580.7	278.8	24.9
41500.0	195.4	-52.1			307.9	579.2	278.6	25.0
42000.0	190.8	-53.2			302.2	577.7	274.5	25.3
42500.0	186.3	-54.4			296.7	576.2	274.7	26.1
43000.0	181.9	-55.5			291.2	574.8	275.1	27.0

\*\* ALL AT ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
12 JUNE 81 1235 HRS PDT  
ASCENSION NO. 391

UPPER AIR DATA  
1630n20391  
WHITE SANDS

TABLE 6 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	SPEED OF SOUND METER KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
43500.0	177.7	-56.6	285.8	573.3	276.1	27.3	1.000064
44000.0	173.5	-57.7	280.6	571.8	277.4	27.1	1.000062
44500.0	169.4	-58.9	275.4	570.3	278.5	27.1	1.000061
45000.0	165.4	-59.8	270.0	569.1	279.0	27.3	1.000060
45500.0	161.4	-60.4	264.3	568.2	279.5	27.6	1.000059
46000.0	157.5	-61.1	258.8	567.3	279.1	28.2	1.000058
46500.0	153.7	-61.6	253.1	566.7	278.7	28.9	1.000056
47000.0	150.0	-61.4	246.8	566.9	278.6	28.5	1.000055
47500.0	146.4	-62.3	241.8	565.7	278.6	27.5	1.000054
48000.0	142.8	-63.2	236.9	564.5	278.7	26.4	1.000053
48500.0	139.3	-64.1	232.1	563.3	278.8	24.9	1.000052
49000.0	135.9	-65.0	227.4	562.1	279.0	23.3	1.000051
49500.0	132.6	-65.9	222.8	560.8	276.1	22.1	1.000050
50000.0	129.3	-66.6	218.1	559.9	272.0	21.1	1.000049
50500.0	126.1	-67.0	213.1	559.4	265.4	19.6	1.000047
51000.0	123.0	-67.3	208.1	558.9	247.5	17.6	1.000046
51500.0	119.9	-67.5	203.1	558.7	226.2	16.5	1.000045
52000.0	116.9	-68.3	198.9	557.5	212.0	17.6	1.000044
52500.0	114.0	-69.3	194.8	556.2	202.7	19.0	1.000043
53000.0	111.1	-70.2	190.8	554.9	196.1	20.7	1.000042
53500.0	108.3	-71.1	186.8	553.8	198.8	21.0	1.000042
54000.0	105.6	-71.5	182.5	553.2	201.4	21.4	1.000041
54500.0	102.9	-72.0	178.3	552.5	201.8	21.9	1.000040
55000.0	100.3	-71.7	173.5	552.9	201.0	22.5	1.000039
55500.0	97.8	-71.5	168.9	553.2	200.2	23.0	1.000038
56000.0	95.3	-71.4	164.6	553.4	199.5	23.1	1.000037
56500.0	92.9	-71.4	160.4	553.4	198.9	23.2	1.000036
57000.0	90.5	-71.4	156.3	553.4	197.0	21.9	1.000035
57500.0	88.3	-70.9	152.0	554.1	192.9	19.0	1.000034
58000.0	86.0	-70.2	147.7	555.0	187.4	16.3	1.000033
58500.0	83.9	-69.9	143.8	555.4	177.6	13.1	1.000032
59000.0	81.8	-70.8	140.8	554.1	161.4	10.4	1.000031
59500.0	79.7	-70.1	136.7	555.2	143.9	10.3	1.000030
60000.0	77.7	-69.2	132.7	556.4	140.1	13.7	1.000029
60500.0	75.8	-68.2	128.8	557.7	137.8	17.1	1.000028
61000.0	73.9	-67.0	124.8	559.4	141.7	20.6	1.000027
61500.0	72.1	-65.7	121.0	561.1	145.1	24.1	1.000026
62000.0	70.3	-64.5	117.3	562.7	149.8	25.9	1.000025
62500.0	68.6	-63.7	114.1	563.8	157.5	25.4	1.000025
63000.0	66.9	-63.1	110.9	564.7	165.4	25.4	1.000025

STATION ALTITUDE 3489.00 FEET "SL  
12 JUNE 81 1235 HRS MDT  
ASCENSION NO. 391

UPPER AIR DATA  
1630020391  
WHITE SANDS  
TABLE 6 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	AIR DEPOINT DEGREES	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
63500.0	65.3	-62.6			108.0	565.3	172.4	23.8	1.000024
64000.0	63.7	-62.5			105.3	565.5	180.2	22.1	1.000023
64500.0	62.1	-62.4			102.7	565.6	187.8	20.5	1.000023
65000.0	60.6	-62.3			100.2	565.7	185.3	16.9	1.000022
65500.0	59.2	-62.2			97.7	565.8	181.5	13.4	1.000022
66000.0	57.7	-62.1			95.3	566.0	169.3	10.6	1.000021
66500.0	56.3	-61.3			92.7	567.0	144.6	9.9	1.000021
67000.0	55.0	-60.4			90.0	568.2	121.0	11.1	1.000020
67500.0	53.7	-60.8			88.1	567.7	115.3	11.6	1.000020
68000.0	52.4	-60.8			85.9	567.7	113.2	11.7	1.000019
68500.0	51.1	-58.7			83.1	570.5	111.9	11.8	1.000018
69000.0	49.9	-56.7			80.3	573.2	115.1	11.9	1.000018
69500.0	48.7	-56.3			78.3	573.7	118.3	12.0	1.000017
70000.0	47.6	-55.9			76.3	574.2	118.4	12.6	1.000017
70500.0	46.5	-55.5			74.4	574.7	115.1	13.8	1.000017
71000.0	45.4	-55.1			72.6	575.2	112.4	15.0	1.000016
71500.0	44.4	-54.6			70.7	575.7	105.4	15.4	1.000016
72000.0	43.3	-54.4			69.0	576.2	96.9	15.7	1.000015
72500.0	42.3	-54.0			67.2	576.7	88.8	16.4	1.000015
73000.0	41.3	-53.6			65.6	577.2	80.3	16.2	1.000015
73500.0	40.4	-53.2			63.9	577.7	88.2	15.9	1.000014
74000.0	39.4	-52.9			62.3	578.2	88.1	15.6	1.000014
74500.0	38.5	-52.2			60.7	579.1	87.9	15.9	1.000014
75000.0	37.6	-51.1			59.0	580.5	87.6	16.1	1.000013
75500.0	36.7	-50.0			57.3	582.0	86.8	17.2	1.000013
76000.0	35.9	-49.6			55.9	582.5	85.2	19.9	1.000012
76500.0	35.1	-49.7			54.7	582.3	84.0	22.6	1.000012
77000.0	34.3	-49.9			53.5	582.1	86.7	24.0	1.000012
77500.0	33.5	-50.0			52.3	581.9	92.7	24.5	1.000012
78000.0	32.7	-50.2			51.1	581.7	98.4	25.1	1.000011
78500.0	32.0	-50.3			50.0	581.5	102.3	25.0	1.000011
79000.0	31.3	-50.1			48.8	581.9	105.3	24.3	1.000011
79500.0	30.5	-49.4			47.5	582.7	108.4	23.6	1.000011
80000.0	29.8	-48.9			46.3	583.4	109.5	22.9	1.000010
80500.0	29.2	-48.7			45.3	583.7	108.8	22.3	1.000010
81000.0	28.5	-48.5			44.2	583.9	108.0	21.6	1.000010
81500.0	27.9	-48.3			43.2	584.1	107.4	21.4	1.000010
82000.0	27.2	-48.2			42.1	584.4	106.9	21.5	1.000009
82500.0	26.6	-47.6			41.1	585.1	106.3	21.6	1.000009
83000.0	26.0	-46.8			40.0	586.1	105.6	22.2	1.000009

GEODETIC COORDINATES  
32.40043 LAT UEG  
106.37033 LON UEG

STATION ALTITUDE 3989.00 FEET MSL  
12 JUNE 81 1235 HRS MDT  
ASCENSION NO. 391

UPPLR AIR DATA  
1630020391  
WHITE SANDS

GEODETIC COORDINATES  
32°40'04.3 LAT DEG  
106°37'03.3 LON DEG

TABLE 6 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
83500.0	25.4	-46.0		39.0	587.2	104.6	23.3	1.000009
84000.0	24.8	-45.2		38.0	588.2	103.7	24.5	1.000008
84500.0	24.3	-44.8		37.1	588.8	101.9	26.1	1.000008
85000.0	23.8	-44.4		36.2	589.2	99.0	28.5	1.000008
85500.0	23.2	-44.0		35.3	589.7	96.6	30.9	1.000008
86000.0	22.7	-43.6		34.5	590.2	95.0	32.8	1.000008
86500.0	22.2	-43.3		33.6	590.7	94.6	33.5	1.000007
87000.0	21.7	-42.9		32.9	591.1	94.3	34.2	1.000007
87500.0	21.2	-42.5		32.1	591.6	94.2	34.7	1.000007
88000.0	20.8	-42.2		31.3	592.1	95.4	33.8	1.000007
88500.0	20.3	-41.8		30.6	592.5	96.6	32.9	1.000007
89000.0	19.9	-41.6		29.9	592.9	97.9	32.0	1.000007
89500.0	19.4	-41.4		29.2	593.0	99.0	32.3	1.000006
90000.0	19.0	-41.3		28.5	593.2	100.0	32.8	1.000006
90500.0	18.6	-41.2		27.9	593.3	100.9	33.3	1.000006
91000.0	18.2	-41.1		27.3	593.5	102.3	33.6	1.000006
91500.0	17.8	-41.0		26.7	593.6	104.0	33.8	1.000006
92000.0	17.4	-40.9		26.1	593.7	105.6	34.0	1.000006
92500.0	17.0	-40.9		25.5	593.7	106.8	33.9	1.000006
93000.0	16.6	-40.9		24.9	593.7	107.4	33.0	1.000006
93500.0	16.3	-40.9		24.4	593.6	107.9	32.1	1.000005
94000.0	15.9	-41.0		23.9	593.6	108.2	31.3	1.000005
94500.0	15.6	-41.0		23.3	593.6	105.7	31.1	1.000005
95000.0	15.2	-41.0		22.8	593.6	105.1	30.8	1.000005
95500.0	14.9	-40.7		22.3	593.9	100.5	30.7	1.000005
96000.0	14.6	-40.1		21.8	594.8	97.9	31.3	1.000005
96500.0	14.2	-39.4		21.2	595.6	95.3	32.1	1.000005
97000.0	13.9	-38.7		20.7	596.5	92.9	33.0	1.000005
97500.0	13.6	-38.0		20.2	597.4	91.0	34.0	1.000004
98000.0	13.3	-37.3		19.7	598.2	89.5	35.1	1.000004
98500.0	13.0	-36.7		19.2	599.1	88.1	36.3	1.000004
99000.0	12.8	-36.0		18.7	599.9	86.9	37.1	1.000004
99500.0	12.5	-35.3		18.3	600.8	86.2	36.5	1.000004
100000.0	12.2	-35.0		17.9	601.2	85.5	35.9	1.000004
100500.0	12.0	-34.9		17.5	601.3	84.8	35.3	1.000004
101000.0	11.7	-34.8		17.1	601.5	86.8	34.7	1.000004
101500.0	11.5	-34.7		16.7	601.6	89.4	34.1	1.000004
102000.0	11.2	-34.5		16.4	601.8	92.0	33.6	1.000004
102500.0	11.0	-34.4		16.0	601.9	95.0	33.6	1.000004
103000.0	10.7	-34.3		15.7	602.1	98.3	34.2	1.000003

STATION ALTITUDE 3989.00 FEET MSL  
12 JUNE 61 1235 HRS NDT

UPPER AIR DATA  
1630020391  
WHITE SANUS  
ASCENSION NO. 391

TABLE 6 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
			GM/CUBIC METER	METER			
103500.0	10.5	-34.2	15.3	602.2	101.5	34.8	1.000003
104000.0	10.3	-34.1	16.0	602.4	104.2	35.5	1.000003
104500.0	10.1	-33.9	14.7	602.5	105.5	35.5	1.000003
105000.0	9.8	-33.9	14.3	602.6	106.7	35.4	1.000003
105500.0	9.6	-33.9	14.0	602.6	107.9	35.4	1.000003
106000.0	9.4	-33.9	13.7	602.6	108.4	35.2	1.000003
106500.0	9.2	-33.9	13.4	602.6	108.2	34.7	1.000003
107000.0	9.0	-33.9	13.2	602.6	108.0	34.5	1.000003
107500.0	8.8	-33.9	12.9	602.6	107.8	33.9	1.000003
108000.0	8.7	-33.9	12.6	602.6	107.6	33.4	1.000003
108500.0	8.5	-33.9	12.3	602.6	107.7	33.7	1.000003
109000.0	8.3	-33.8	12.1	602.7	107.8	33.9	1.000003
109500.0	8.1	-33.8	11.8	602.7	107.9	34.2	1.000003
110000.0	7.9	-33.8	11.6	602.7	108.0	34.4	1.000003
110500.0	7.8	-33.8	11.3	602.7	107.7	34.4	1.000003
111000.0	7.6	-33.8	11.1	602.7	107.1	34.4	1.000002
111500.0	7.4	-33.8	10.8	602.7	106.4	34.3	1.000002
112000.0	7.3	-33.8	10.6	602.7	105.8	34.2	1.000002
112500.0	7.1	-33.8	10.4	602.7	105.1	34.4	1.000002
113000.0	7.0	-33.8	10.2	602.7	104.2	35.3	1.000002
113500.0	6.8	-33.6	9.9	602.9	103.3	36.1	1.000002
114000.0	6.7	-33.5	9.7	605.1	102.5	37.0	1.000002
114500.0	6.5	-33.3	9.5	603.5	101.7	38.0	1.000002
115000.0	6.4	-33.2	9.3	603.5	100.7	39.4	1.000002
115500.0	6.3	-33.0	9.1	603.7	99.7	41.0	1.000002
116000.0	6.1	-32.9	8.9	603.9	98.7	42.6	1.000002
116500.0	6.0	-32.7	8.7	604.1	97.9	44.2	1.000002
117000.0	5.9	-32.6	8.5	604.3			1.000002
117500.0	5.8	-32.4	8.3	604.5			1.000002
118000.0	5.6	-32.3	8.2	604.7			1.000002
118500.0	5.5	-32.1	8.0	604.8			1.000002
119000.0	5.4	-31.9	7.8	605.0			1.000002
119500.0	5.3	-31.8	7.6	605.2			1.000002
120000.0	5.2	-31.6	7.5	605.4			1.000002
120500.0	5.1	-31.5	7.3	605.6			1.000002

STATION ALTITUDE 3989.00 FEET MSL  
 12 JUNE 81 1235 HRS MDT  
 ASCENSION NO. 591

MANDATORY LEVELS  
 1630020391  
 WHITE SANDS

GEODETIC COORDINATES  
 32°40'04.3 LAT DEG  
 106.37033 LON UEG

TABLE 7

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES	AIR DEWPONT CENTIGRADE	REL.HUM. PERCENT	WIND DATA	
					DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4827.	31.2	3.3	17*	170.8	5.3
800.0	6592.	26.2	2.2	21*	175.6	6.2
750.0	8438.	21.2	*2	25*	228.8	6.7
700.0	10379.	16.3	-2.2	28*	240.1	10.5
650.0	12427.	10.7	-3.7	36*	249.6	12.6
600.0	14593.	4.8	-6.7	43*	256.0	14.0
550.0	16895.	-1.6	-9.8	54*	262.3	19.3
500.0	19362.	-6.1	-28.5	15*	263.3	7.8
450.0	22057.	-9.6	-30.1	17*	11.6	7.7
400.0	25002.	-16.8	-33.4	22*	323.8	17.0
350.0	28259.	-22.5	-40.6	17*	277.9	16.5
300.0	31902.	-32.1	-48.3	18*	285.9	21.7
250.0	36041.	-41.3			284.6	26.1
200.0	40908.	-51.0			278.8	24.9
175.0	43719.	-57.3			276.9	27.2
150.0	46875.	-61.4			278.6	26.5
125.0	50528.	-67.1			260.6	18.6
100.0	54889.	-71.7			200.9	22.5
80.0	59226.	-70.2			145.1	9.6
70.0	61865.	-64.3			150.5	25.8
60.0	64981.	-62.3			164.1	15.6
50.0	68703.	-56.7			114.7	11.9
40.0	73383.	-53.1			88.2	15.8
30.0	79540.	-48.9			109.7	23.1
25.0	83489.	-45.4			104.0	24.1
20.0	88416.	-41.6			97.4	32.3
15.0	94831.	-41.0			101.8	30.8
10.0	104065.	-33.9			105.7	35.4
7.0	112268.	-33.6			104.4	35.0
5.0	120046.	-31.4				

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4010.40 FEET MSL  
 12 JUNE 81 1236 HRS MDT  
 ASCENSION NO. 40

SIGNIFICANT LEVEL DATA  
 1630220040  
 NW 30  
 TABLE 8

GEOODETIC COORDINATES  
 32.88497 LAT DEG  
 106.49714 LON DEG

PRESSURE MILLIBARS MSL	GEOMETRIC ALTITUDE FEET	TEMPERATURE		REL.HUM. PERCENT
		AIR DEWPONT DEGREES	CENTIGRADE	
872.7	4010.4	38.0	7.8	16.0
850.0	4797.0	33.4	8.1	21.0
790.2	6934.7	26.8	5.1	25.0
751.8	8366.0	21.9	1.0	25.0
742.2	8732.0	21.5	4.1	32.0
714.0	9828.3	18.1	2.0	34.0
700.0	10383.8	16.4	.9	35.0
677.0	11315.1	14.6	-.3	36.0
650.2	12431.0	11.4	-2.8	37.0
614.6	13967.4	7.7	-6.4	36.0
579.8	15534.7	3.2	-6.2	50.0
562.8	16325.9	1.5	-9.7	43.0
509.6	18925.5	-5.0	-15.9	42.0
504.8	19170.5	-4.4	-17.9	34.0
500.0	19417.9	-4.7	-23.1	22.0
496.6	19594.6	-4.4	-25.1	18.0
465.0	21288.5	-7.3	-27.5	18.0
454.0	21901.2	-8.0	-28.1	18.0
400.0	25086.8	-16.4	-30.6	28.0
380.0	26348.0	-19.9	-33.3	29.0
361.8	27545.7	-20.2	-38.3	18.0
355.0	28007.7	-21.0	-38.4	19.0
315.0	30869.5	-28.8	-45.0	19.0
300.0	32012.8	-31.6	-47.0	20.0
283.8	33296.7	-35.1	-48.8	23.0
250.0	36175.8	-40.5		
232.2	37819.5	-44.5		
216.2	39387.6	-46.6		
200.0	41074.0	-51.0		
173.6	44064.8	-57.6		
150.0	47072.3	-62.4		
140.4	48416.7	-63.0		
129.0	50119.4	-67.0		
121.8	51265.2	-66.3		
118.4	51829.3	-67.6		
107.2	53783.8	-71.6		
100.0	55141.5	-70.6		
78.4	59926.6	-68.9		
70.0	62195.2	-63.4		
66.6	63212.8	-60.3		

STATION ALTITUDE 40 FEET MSL  
12 JUNE 81 1236 HRS MDT  
ASCENSION NO. 40

## SIGNIFICANT LEVEL DATA

1630220040  
NW 30GEODETIC COORDINATES  
32.88497 LAT DEG  
106.49714 LON DEG

TABLE 8 CON'T

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEMP POINT	REL.HUM. PERCENT
52.8	67991.1	-60.6		
50.0	69121.6	-56.9		
41.2	73231.1	-50.8		
34.6	77000.4	-49.6		
30.0	80117.3	-45.6		
25.0	84170.2	-41.9		
20.0	89174.8	-41.7		
14.4	96655.3	-35.1		
10.2	104682.6	-31.6		

STATION ALTITUDE 4010.40 FEET MSL  
12 JUNE 81 1236 HRS MD

ASCENSION NO. 40

UPPER AIR DATA  
1630220040  
NW 30

TABLE 9

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	AIR DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIN DATA SPEED KNOTS	INDEX OF REFRACTION
4010.4	872.7	38.0	7.8	16.0	972.6	688.8	90.0	8.0	1.000258
4500.0	858.5	35.1	8.1	19.1	965.5	685.7			1.000258
5000.0	844.1	32.8	7.8	21.4	956.7	683.0			1.000256
5500.0	829.9	31.2	7.2	22.3	945.4	681.3			1.000252
6000.0	815.8	29.7	6.5	23.3	934.2	679.5			1.000248
6500.0	802.0	28.1	5.8	24.2	923.3	677.7			1.000244
7000.0	788.4	26.6	5.0	25.0	912.5	675.9			1.000240
7500.0	774.8	24.9	3.5	25.0	902.2	673.8			1.000235
8000.0	761.4	23.2	2.1	25.0	892.1	671.8			1.000229
8500.0	748.3	21.8	2.2	27.6	880.7	670.2			1.000228
9000.0	735.2	20.7	3.6	32.5	868.1	669.1			1.000228
9500.0	722.3	19.1	2.7	33.4	857.6	667.3			1.000224
10000.0	709.6	17.6	1.7	34.3	847.2	665.5			14.0
10500.0	697.1	16.2	.8	35.1	836.4	663.8			1.000216
11000.0	684.7	15.2	.1	35.7	824.4	662.7			1.000212
11500.0	672.5	14.1	-.7	36.2	813.0	661.3			1.000208
12000.0	660.4	12.6	-1.8	36.6	802.6	659.2			1.000204
12500.0	648.6	11.2	-2.9	37.0	792.2	657.9			24.7
13000.0	636.8	10.0	-4.1	36.6	781.3	656.5			24.0
13500.0	625.2	8.8	-5.3	36.3	770.5	655.0			24.5
14000.0	613.9	7.6	-6.4	36.3	759.9	653.5			27.5
14500.0	602.5	6.2	-6.2	40.8	749.7	651.9			31.1
15000.0	591.4	4.7	-6.1	45.2	739.6	650.2			31.0
15500.0	580.5	3.3	-6.2	49.7	729.7	648.6			27.5
16000.0	569.7	2.2	-8.2	45.9	719.2	647.2			1.000177
16500.0	559.1	1.1	-10.1	42.9	708.9	645.7			1.000168
17000.0	548.5	-.2	-11.3	42.7	698.8	644.2			1.000166
17500.0	538.1	-1.4	-12.5	42.5	688.8	642.7			1.000164
18000.0	527.9	-2.7	-13.7	42.4	679.0	641.2			3.9
18500.0	518.0	-3.9	-14.9	42.2	669.3	639.7			1.000165
19000.0	508.1	-4.8	-16.4	39.6	658.9	638.6			3.6
19500.0	498.4	-4.6	-24.0	20.1	646.0	638.7			27.5
20000.0	488.8	-5.1	-25.7	18.0	634.9	638.0			1.000162
20500.0	479.5	-6.0	-26.4	18.0	624.7	637.0			4.4
21000.0	470.2	-6.8	-27.1	18.0	614.7	636.0			1.000159
21500.0	461.2	-7.5	-27.7	18.0	604.6	635.1			4.1
22000.0	452.2	-8.3	-28.1	18.3	594.4	634.2			4.4
22500.0	443.3	-9.6	-28.3	19.9	585.7	632.6			1.000154
23000.0	434.6	-10.9	-28.6	21.4	577.0	631.0			7.7
23500.0	426.0	-12.2	-29.0	23.0	568.5	629.5			1.000150

xx WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 4010.40 FEET MSL  
12 JUNE 81 1236 HRS MDT  
ASCENSION NO. 4n

UPPLR AIR DATA  
1630220040  
NW 30

GEODETIC COORDINATES  
32°88'97 LAT UEG  
106°49'14 LONG UEG

TABLE 9 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES	DEWPOINT CENTIGRADE	REL.HUM. PERCENT	G/M/CUBIC METER	SOUND KNOTS	DIRECTION DEGREES(TIN)	SPEED KNOTS	INDEX OF REFRACTION	
									WIND DATA	INDEX OF REFRACTION
24000.0	417.7	-13.5	-29.5	24.6	560.2	627.9	323.5	11.4	1.000128	
24500.0	409.4	-14.9	-29.9	26.2	552.0	626.3	314.7	14.1	1.000126	
25000.0	401.4	-16.2	-30.5	27.7	543.9	624.7	310.3	16.1	1.000124	
25500.0	393.3	-17.5	-31.5	28.3	535.9	623.0	306.1	17.5	1.000122	
26000.0	385.4	-18.9	-32.5	28.7	528.0	621.3	299.8	17.2	1.000120	
26500.0	377.6	-19.9	-33.8	27.6	519.4	620.0	290.8	16.7	1.000118	
27000.0	370.0	-20.1	-35.8	23.0	509.1	619.9	278.5	16.5	1.000115	
27500.0	362.5	-20.2	-38.0	18.4	499.1	619.7	269.7	16.5	1.000113	
28000.0	355.1	-21.0	-38.4	19.0	490.5	618.7	263.0	16.6	1.000111	
28500.0	347.8	-22.3	-39.6	19.0	482.9	617.0	261.2	16.3	1.000109	
29000.0	340.6	-23.7	-40.7	19.0	475.6	615.4	260.7	15.9	1.000107	
29500.0	333.5	-25.1	-41.9	19.0	468.3	613.7	262.6	15.8	1.000105	
30000.0	326.7	-26.4	-43.0	19.0	461.2	612.0	263.7	16.0	1.000104	
30500.0	319.9	-27.8	-44.2	19.0	454.1	610.3	263.8	16.8	1.000102	
31000.0	313.3	-29.1	-45.3	19.1	447.1	608.6	265.9	18.8	1.000100	
31500.0	306.6	-30.3	-46.1	19.6	439.9	607.1	268.3	21.2	1.000099	
32000.0	300.2	-31.6	-47.0	20.1	432.8	605.5	273.4	23.6	1.000097	
32500.0	293.7	-32.9	-47.6	20.1	425.9	603.8	277.8	25.5	1.000095	
33000.0	287.5	-34.3	-48.3	22.3	419.2	602.1	279.9	26.0	1.000094	
33500.0	281.3	-35.5	-49.7	21.4**	412.2	600.6	281.4	26.5	1.000092	
34000.0	275.1	-36.4	-52.3	17.4**	404.9	599.4	282.2	27.1	1.000090	
34500.0	269.2	-37.4	-55.2	13.4**	397.6	598.2	282.4	28.4	1.000089	
35000.0	263.3	-38.3	-58.8	9.4**	390.5	597.0	281.4	29.5	1.000087	
35500.0	257.6	-39.2	-63.7	5.4**	383.6	595.8	279.7	30.5	1.000086	
36000.0	251.9	-40.2	-73.7	1.4**	376.7	594.6	278.8	30.8	1.000084	
36500.0	246.4	-41.3			370.2	593.2	278.9	30.2	1.000082	
37000.0	240.9	-42.5			363.9	591.7	280.6	28.6	1.000081	
37500.0	235.6	-43.7			357.7	590.1	277.3	27.5	1.000080	
38000.0	230.3	-44.7			351.2	588.8	273.8	27.2	1.000078	
38500.0	225.1	-45.4			344.4	587.9	271.1	27.8	1.000077	
39000.0	220.0	-46.1			337.6	587.0	270.4	27.5	1.000075	
39500.0	215.1	-46.9			331.2	586.0	271.0	26.6	1.000074	
40000.0	210.2	-48.2			325.5	584.3	269.4	26.3	1.000072	
40500.0	205.4	-49.5			319.9	582.6	267.2	26.3	1.000071	
41000.0	200.7	-50.8			314.4	580.9	263.8	26.5	1.000070	
41500.0	196.0	-51.9			308.7	579.4	261.6	26.7	1.000069	
42000.0	191.4	-53.0			303.0	578.0	260.5	26.6	1.000067	
42500.0	186.9	-54.1			297.4	576.5	261.4	27.9	1.000066	
43000.0	182.6	-55.3			291.9	575.1	262.3	29.2	1.000065	
43500.0	178.3	-56.4			286.5	573.6	261.7	28.2	1.000064	

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4010.40 FEET MSL  
12 JUNE 61 1236 HRS MDR  
ASCENSION NO. 40

UPPER AIR DATA  
1630220040  
NW 30

GEODETIC COORDINATES  
32.88497 LAT DEG  
106.49714 LON UEG

TABLE 9 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT PERCENT	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SOUND SPEED KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
44000.0	174.1	-57.5			261.2	572.2	261.1	26.4	1.000063
44500.0	170.0	-58.3			275.6	571.0	260.6	23.6	1.000061
45000.0	165.9	-59.1			270.0	570.0	260.4	22.8	1.000060
45500.0	161.9	-59.9			264.5	568.9	260.5	23.0	1.000059
46000.0	156.0	-60.7			259.1	567.9	261.7	26.5	1.000058
46500.0	154.2	-61.5			253.8	566.8	263.9	30.0	1.000057
47000.0	150.5	-62.3			248.7	565.7	266.9	33.7	1.000056
47500.0	146.9	-62.6			243.0	565.3	268.3	33.7	1.000054
48000.0	143.3	-62.8			237.4	565.0	269.4	32.2	1.000053
48500.0	139.8	-63.2			232.0	564.5	269.3	29.6	1.000052
49000.0	136.4	-64.4			227.6	562.9	269.3	27.3	1.000051
49500.0	133.0	-65.5			223.2	561.3	269.7	25.6	1.000050
50000.0	129.8	-66.7			219.0	559.7	265.6	22.8	1.000049
50500.0	126.6	-66.8			213.6	559.7	255.8	19.6	1.000048
51000.0	123.4	-66.5			208.0	560.1	234.0	16.9	1.000046
51500.0	120.4	-66.8			203.3	559.6	208.6	17.4	1.000045
52000.0	117.4	-67.9			199.3	558.1	196.2	20.4	1.000044
52500.0	114.4	-69.0			195.2	556.7	192.7	22.9	1.000043
53000.0	111.6	-70.0			191.3	555.3	199.5	23.6	1.000043
53500.0	108.8	-71.0			187.4	553.9	205.2	23.7	1.000042
54000.0	106.0	-71.4			183.1	553.3	210.5	23.4	1.000041
54500.0	103.3	-71.1			178.1	553.8	212.8	24.1	1.000040
55000.0	100.7	-70.7			173.3	554.3	213.5	24.7	1.000039
55500.0	98.2	-70.5			168.8	554.6	209.7	24.7	1.000038
56000.0	95.7	-70.3			164.4	554.9	204.6	23.9	1.000037
56500.0	93.3	-70.1			160.1	555.1	197.4	22.4	1.000036
57000.0	91.0	-69.9			156.0	555.4	194.3	18.2	1.000035
57500.0	88.7	-69.8			151.9	555.6	191.4	13.2	1.000034
58000.0	86.5	-69.6			148.0	555.8	173.6	9.5	1.000033
58500.0	84.3	-69.4			144.1	556.1	149.6	8.2	1.000032
59000.0	82.2	-69.2			140.4	556.3	146.0	10.0	1.000031
59500.0	80.1	-69.1			136.8	556.6	142.1	12.7	1.000030
60000.0	78.1	-68.7			133.1	557.0	138.7	16.4	1.000030
60500.0	76.2	-67.5			129.1	558.7	137.7	19.5	1.000029
61000.0	74.3	-66.3			125.1	560.3	137.4	22.4	1.000028
61500.0	72.5	-65.1			121.3	561.9	149.4	21.9	1.000027
62000.0	70.7	-63.9			117.7	563.6	161.9	21.8	1.000026
62500.0	69.0	-62.5			114.0	565.5	169.6	20.9	1.000025
63000.0	67.3	-60.9			110.5	567.5	173.9	19.9	1.000025
63500.0	65.7	-60.3			107.5	568.3	174.0	18.4	1.000024

STATION ALTITUDE 4010.40 FEET MSL  
12 JUNE 81  
1236 HRS MD

ASCENSION NO. 40

UPPER AIR DATA  
1630Z 220940  
FM 30

GEODETIC COORDINATES  
32.88497 LAT DEG  
106.49714 LON DEG

TABLE 9 CON'T

GEOFMETRIC	PRESSURE	TEMPERATURE	DEWPOINT	REL.HUM.	DENSITY	SPEED OF	WIND DATA	INDEX
ALTITUDE	MMARS	AIR DEGREES	CENTIGRADE	PERCENT	GM/CUBIC METER	SOUND KNOTS	DIRECTION DEGREES (TN)	OF REFRACTION
MSL FEET	MMARS	DEGREES	CENTIGRADE			KNOTS		
64000.0	64.1	-60.3		104.9	568.3	172.0	15.5	1.000023
64500.0	62.6	-60.4		102.4	568.3	167.7	12.0	1.000023
65000.0	61.1	-60.4		100.0	568.2	146.2	9.2	1.000022
65500.0	59.6	-60.4		97.6	568.2	109.7	12.3	1.000022
66000.0	58.2	-60.5		95.3	568.1	95.5	17.8	1.000021
66500.0	56.8	-60.5		93.0	568.1	92.4	18.9	1.000021
67000.0	55.4	-60.5		90.8	568.1	96.6	15.2	1.000020
67500.0	54.1	-60.6		88.6	568.0	96.7	14.1	1.000020
68000.0	52.8	-60.6		86.5	568.0	94.4	14.2	1.000019
68500.0	51.5	-58.9		83.8	570.2	95.6	12.7	1.000019
69000.0	50.3	-57.3		81.2	572.4	99.8	10.6	1.000018
69500.0	49.1	-56.3		78.9	573.6	103.2	9.2	1.000018
70000.0	48.0	-55.6		76.8	574.6	101.4	9.2	1.000017
70500.0	46.9	-54.9		74.8	575.6	95.9	10.0	1.000017
71000.0	45.8	-54.1		72.8	576.6	88.3	11.8	1.000016
71500.0	44.7	-53.4		70.9	577.6	81.7	12.9	1.000016
72000.0	43.7	-52.6		69.0	578.5	75.0	13.4	1.000015
72500.0	42.6	-51.9		67.1	579.5	75.7	15.0	1.000015
73000.0	41.7	-51.1		65.4	580.5	78.7	17.2	1.000015
73500.0	40.7	-50.7		63.7	581.0	89.5	19.2	1.000014
74000.0	39.8	-50.6		62.2	581.2	99.8	21.9	1.000014
74500.0	38.8	-50.4		60.8	581.4	104.8	22.7	1.000014
75000.0	36.0	-50.2		59.3	581.7	109.1	23.4	1.000013
75500.0	37.1	-50.1		57.9	581.9	107.9	23.1	1.000013
76000.0	36.2	-49.9		56.6	582.1	106.3	22.7	1.000013
76500.0	35.4	-49.8		55.2	582.3	105.0	23.4	1.000012
77000.0	34.6	-49.6		53.9	582.5	103.8	24.0	1.000012
77500.0	33.8	-49.0		52.5	583.3	101.4	24.9	1.000012
78000.0	33.1	-48.3		51.2	584.2	99.3	25.7	1.000011
78500.0	32.3	-47.7		49.9	585.0	101.4	24.1	1.000011
79000.0	31.6	-47.0		48.6	585.8	103.9	22.7	1.000011
79500.0	30.9	-46.4		47.4	586.6	103.5	22.9	1.000011
80000.0	30.2	-45.8		46.2	587.5	103.2	23.2	1.000010
80500.0	29.5	-45.3		45.1	588.1	98.7	25.1	1.000010
81000.0	28.8	-44.8		44.0	588.7	94.9	27.2	1.000010
81500.0	28.2	-44.3		42.9	589.3	93.0	27.9	1.000010
82000.0	27.6	-43.9		41.9	589.9	91.3	28.6	1.000009
82500.0	27.0	-43.4		40.9	590.5	92.2	28.6	1.000009
83000.0	26.4	-43.0		39.9	591.1	93.3	28.7	1.000009
83500.0	25.8	-42.5		38.9	591.6	94.0	28.2	1.000009

STATION ALTITUDE 4010.40 FEET MSL  
12 JUNE 81 1236 HRS MBT  
ASCENSION NO. 40

UPPER AIR DATA  
1630220040  
NW 30

GEODETIC COORDINATES  
32.88497 LAT DEG  
106.49714 LON DEG

TABLE 9 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	AIR DEPOINT PERCENT	REL. HUM. PERCENT	GM/CUBIC METER	SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
84000.0	25.2	-42.1			38.0	592.2	94.6	27.5	1.000008
84500.0	24.6	-41.9			37.1	592.4	94.7	27.2	1.000008
85000.0	24.1	-41.9			36.3	592.5	94.2	27.2	1.000008
85500.0	23.6	-41.8			35.5	592.5	95.6	27.6	1.000008
86000.0	23.0	-41.8			34.7	592.5	100.4	29.1	1.000008
86500.0	22.5	-41.8			33.9	592.5	104.5	30.6	1.000008
87000.0	22.0	-41.8			33.2	592.6	106.0	30.4	1.000007
87500.0	21.6	-41.8			32.4	592.6	107.5	30.2	1.000007
88000.0	21.1	-41.7			31.7	592.6	105.2	29.3	1.000007
88500.0	20.6	-41.7			31.0	592.6	102.3	28.3	1.000007
89000.0	20.2	-41.7			30.3	592.7	98.4	27.8	1.000007
89500.0	19.7	-41.4			29.6	593.1	94.0	27.6	1.000007
90000.0	19.3	-41.0			28.9	593.6	87.1	28.1	1.000006
90500.0	18.9	-40.5			28.3	594.2	77.8	30.0	1.000006
91000.0	18.5	-40.1			27.6	594.7	70.1	32.7	1.000006
91500.0	18.1	-39.6			26.9	595.3	65.6	36.2	1.000006
92000.0	17.7	-39.2			26.3	595.9	62.0	40.0	1.000006
92500.0	17.3	-38.8			25.7	596.4	64.2	37.1	1.000006
93000.0	16.9	-38.3			25.1	597.0	67.4	33.7	1.000006
93500.0	16.5	-37.9			24.5	597.6	71.4	29.7	1.000005
94000.0	16.2	-37.4			23.9	598.1	76.9	25.5	1.000005
94500.0	15.8	-37.0			23.4	598.7	83.9	22.8	1.000005
95000.0	15.5	-36.6			22.8	599.2	91.4	22.2	1.000005
95500.0	15.1	-36.1			22.3	599.8	98.6	22.3	1.000005
96000.0	14.8	-35.7			21.7	600.3	101.4	24.4	1.000005
96500.0	14.5	-35.2			21.2	600.9	103.8	26.7	1.000005
97000.0	14.2	-34.9			20.8	601.3	105.2	28.2	1.000005
97500.0	13.9	-34.7			20.3	601.5	106.4	29.8	1.000005
98000.0	13.6	-34.5			19.8	601.8	107.4	30.1	1.000004
98500.0	13.3	-34.3			19.4	602.1	108.2	29.8	1.000004
99000.0	13.0	-34.1			19.0	602.4	107.7	29.1	1.000004
99500.0	12.7	-33.9			18.6	602.6	104.2	27.7	1.000004
100000.0	12.5	-33.6			18.1	602.9	101.7	26.5	1.000004
100500.0	12.2	-33.4			17.7	603.2	102.7	27.9	1.000004
101000.0	11.9	-33.2			17.3	603.5	104.6	29.3	1.000004
101500.0	11.7	-33.0			17.0	603.7	104.0	28.7	1.000004
102000.0	11.4	-32.8			16.6	604.0	102.6	27.3	1.000004
102500.0	11.2	-32.6			16.2	604.3	103.1	26.0	1.000004
103000.0	11.0	-32.3			15.9	604.6	103.6	26.4	1.000004
103500.0	10.7	-32.1			15.5	604.9			1.000003

STATION ALTITUDE 4010.40 FEET :SL  
12 JUNE 81 126 HRS PDT  
ASCENSION NO. 40

UPPER AIR DATA  
1630Z220040  
NW 30

GEODETIC COORDINATES  
32.88497 LAT DEG  
106.49714 LON DEG

TABLE 9 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	REL.HUM. PERCENT	SPEED OF SOUND METER KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
104000.0	10.5	-31.9				15.2	605.1	1.000003
104500.0	10.3	-31.7				14.8	605.4	1.000003

STATION ALTITUDE 4010.40 FEET SL  
12 JUNE 81 1236 HRS MDT  
ASCENSION NO. 40

MANDATORY LEVELS  
1630220040  
NW 30

GEODETIC COORDINATES  
32.88497 LAT DEG  
106.49714 LON DEG

TABLE 10

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES	AIR DEGREE CENTIGRADE	DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA	
						DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4794.	33.4	8.1	21.	9999.0	9999.0XX	
800.0	6572.	27.9	5.7	24.	9999.0	9999.0XX	
750.0	8427.	21.8	1.6	26.	185.1	13.6	
700.0	10374.	16.4	.9	35.	224.2	15.8	
650.0	12426.	11.4	-2.8	37.	248.9	24.7	
600.0	14600.	5.8	-6.1	42.	250.1	31.9	
550.0	16912.	-0.0	-11.1	43.	273.9	7.5	
500.0	19391.	-4.7	-23.1	22.	238.3	3.9	
450.0	22094.	-8.6	-28.2	19.	315.8	6.6	
400.0	25045.	-16.4	-30.6	28.	309.7	16.4	
350.0	28301.	-21.9	-39.2	19.	261.4	16.4	
300.0	31949.	-31.6	-47.0	20.	273.4	23.6	
250.0	36097.	-40.5			278.5	30.9	
200.0	40975.	-51.0			263.4	26.6	
175.0	43785.	-57.2			261.2	27.1	
150.0	46945.	-62.4			267.1	34.1	
125.0	50601.	-66.6			247.7	18.2	
100.0	54971.	-70.6			212.6	24.7	
80.0	59331.	-69.0			142.1	12.7	
70.0	61982.	-63.4			164.4	21.5	
60.0	65127.	-60.4			120.9	10.2	
50.0	68862.	-56.9			100.8	10.2	
40.0	73573.	-50.6			96.7	20.9	
30.0	79774.	-45.6			102.4	23.5	
25.0	83793.	-41.9			94.8	27.4	
20.0	88754.	-41.7			97.2	27.8	
15.0	95233.	-35.9			99.6	23.0	

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

XX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

